

T-TOUCH SOLAR E81

USER'S MANUAL



Acknowledgements

We would like to thank you for choosing a TISSOT watch, a Swiss brand among the most highly renowned in the world. Your T-TOUCH SOLAR E81 watch has the most recent technical innovations. It gives you a constant analogue time display and a variety of digital displays. In addition, the following functions can be accessed simply by touching the glass: Weather, Altimeter, Chronograph, Compass, Alarm and Countdown.

Official service
centers addresses
www.tissot.ch



WARNING

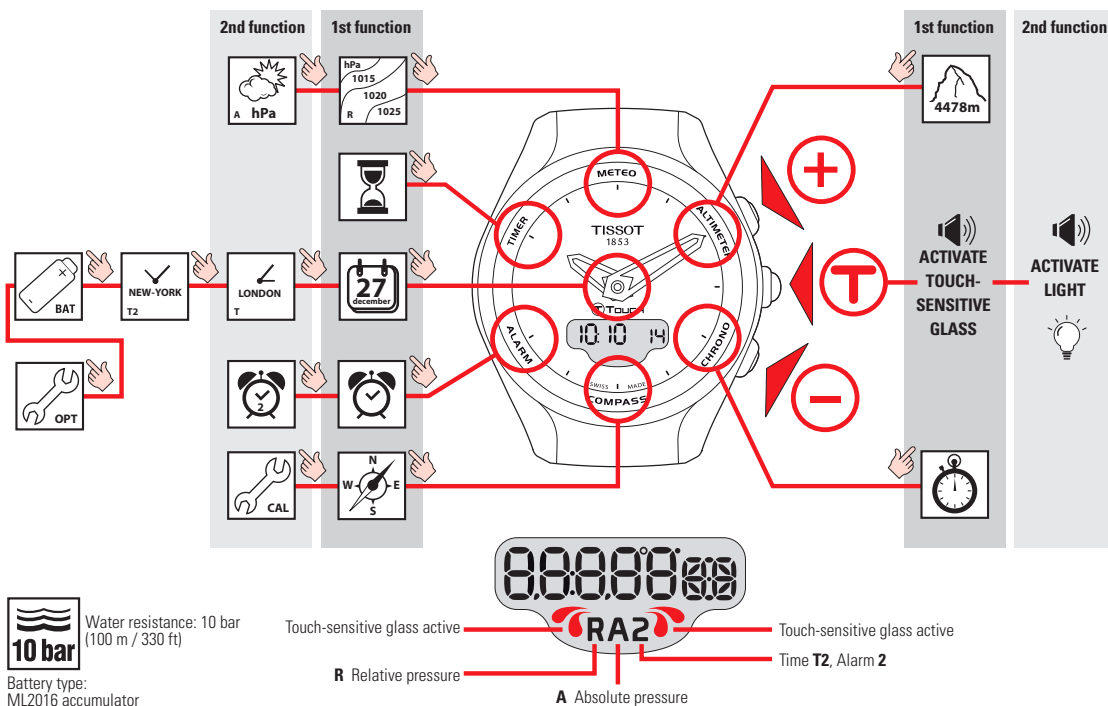
Customer Service Center

**TISSOT TACTILE
WATCHES** MUST ONLY
BE SERVICED BY TISSOT'S
**AUTHORIZED CUSTOMER
SERVICE CENTERS,**
WHICH ARE LOCATED IN
OVER 160 COUNTRIES

Recommended
service prices
support.tissot.ch
















FUNCTIONS



FUNCTIONS



Activate touch-sensitive glass / Activate light

	CENTRE – Date	4		CHRONO – Chronograph	12
	CENTRE – Time 1	5		COMPASS – Compass	12
	CENTRE – Time 2	5		COMPASS – Calibration	13
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GENERAL USER INFORMATION

Activating the touch-sensitive glass



When the glass is activated, the 4-petal symbol will flash on the digital display.

If the glass is not touched, it will automatically deactivate after 20 seconds.

Exception: In time-setting mode, the glass will deactivate after 60 seconds.

Activating the light



The display light will stay on for 5 seconds.

Select a function



Touch one of the 7 touch-sensitive areas of the glass to activate the corresponding function.

Setting mode



⊕: move display and/or hand position forward

⊖: move display and/or hand position backward

If the watch is not operated for 20 seconds, the setting mode will be deactivated.

Display mode

Activate glass



Date display = Default display



Time 1 display: T



Time 2 display: T2



Battery charge level display (see page 5)



Options display (see page 6)

Back to Date display



DATE > SETTING

The calendar is perpetual, i.e. the number of days per month is predefined. The date units are linked, so completing a full cycle of the months will move the year forward.



Activate glass



Date display



Setting mode, select year



⊕: forward 1 year
⊖: back 1 year



Select month



⊕: forward 1 month
⊖: back 1 month



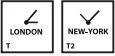
Select day



⊕: forward 1 day
⊖: back 1 day



Validate setting



TIMES T & T2 > SETTING

Pressing and holding **+** or **-** will move the hands forward or backward. Time T2 is set in steps of 15 minutes.



Activate glass



Time **T** or **T2** display
(example: T)



Enter **hour setting mode**



+: forward 1 hour
-: back 1 hour
(hands and display)



Validate the hour setting
and switch to **minute setting mode**.



+: forward 1 minute
-: back 1 minute
(hands and display)

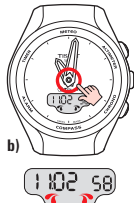


Validate the minute setting
and switch to **seconds synchronisation mode (T1)**.



a)

Seconds synchronisation (T1).



b)

a) If the seconds are between **0** and **30** when the push-button is pressed, the minute is unchanged and the seconds restart at zero.
If the seconds are between **31** and **59** when the push-button is pressed, the minute is moved forward and the seconds restart at zero.
b) The seconds continue.



BAT (BATTERY) > READING THE CHARGE LEVEL

If the watch is in this mode, the battery charge state is indicated by the last 3 digits.



Battery charge level
display

Normal operation



Battery
charged

Battery at
2/3 charge

Recharge indicator



Battery at
1/3 charge

The light can no longer be activated.
"bAt" is displayed in alternation with the regular function.
The watch must then be exposed to light to exit this mode.

Battery drained



In this state, the watch can no longer operate correctly.

All the functions are deactivated, except for time T1 and the date.

The watch will enter energy saving mode (see page 8).

The watch will need to be exposed to light to obtain sufficient charge to run normally.

Battery flat



The watch is stopped.

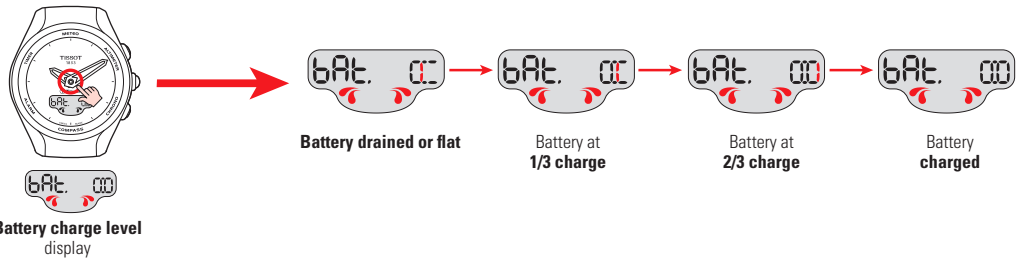
It automatically exits this state after prolonged exposure to light.

The time and date must be reconfigured when exiting this state.



BAT (BATTERY) > CHARGE INDICATOR

If the watch is exposed to a light intensity equal to or greater than a fluorescent light and the battery is not fully charged, then it will be recharged by means of the solar cell.



BAT (BATTERY) > GLOSSARY

A micro-controller manages the watch's consumption and the battery charge state display. According to this state, it deactivates certain functions, or switches the watch to **energy saving** mode (see page 8).

Note 1: The battery charge is checked **periodically** (1x/min), and **continually** when the light is activated.

Note 2: You are advised to recharge the battery within a few days of the "bAt" symbol appearing.

Battery charge time

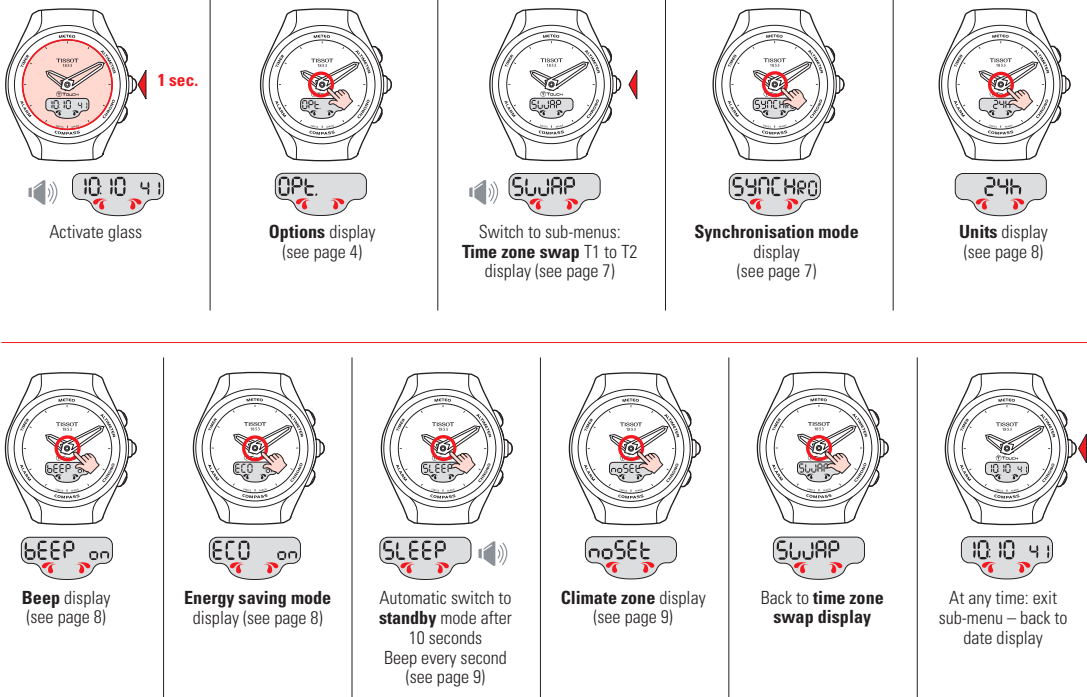
The table below indicates the charge time recommended for daily use.

Exposure level	Daily use
Sunlight outdoors	7 minutes
Sunlight through a window	16 minutes
Daylight with cloudy sky	26 minutes
Daylight indoors	2 hours
Fluorescent light indoors	5 hours

Note: If the battery is completely flat, the watch must be exposed to at least 18 hours of light before it can be used.



OPTIONS > READING





SWAP (TIME SWAP) > SETTING

SWAP mode is used to switch from time T to time T2 and vice versa. For example: before setting off, you can set under T2 the local time zone for the country you are going to visit.



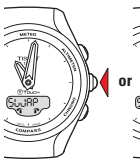
SWAP mode display



Setting mode



"SWAP n" = No
"SWAP y" = Yes



Validate setting
Times T and T2 are swapped



SWAP (TIME SWAP) > EXAMPLE OF A TRIP ABROAD

10:10: Local time where you live / 18:10: Local time for the country you are going to visit.



Outward trip

Mode
"SWAP y"



The analogue display and the time T indicate
the time for the country you are visiting
Time T2 indicates the time where you live



Return trip

Mode
"SWAP y"



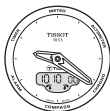
The analogue display and the time T indicate
the time where you live
Time T2 indicates the time for the country
you are visiting



SYNCHRO (SYNCHRONISATION) > SETTING



✓ Synchronised



✗ Desynchronised

The watch needs to be synchronised if the watch hands do not display the same time as the digital display, or if they are not correctly superimposed when accessing the functions.

The watch is desynchronised when its electric motor's mechanism is disturbed due to heavy impacts for example.

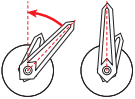
N.B.: The glass must be active to access synchronisation mode.



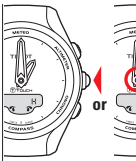
Synchronisation
mode display



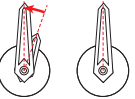
Synchronisation
setting mode
The hands should
be perfectly
superimposed in the
12 o'clock position



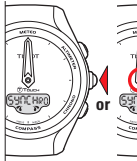
Position the minute
hand at 12 o'clock



Validate setting



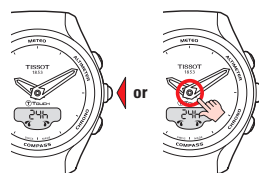
Position the hour hand
at 12 o'clock



Validate setting Back
to Time T mode

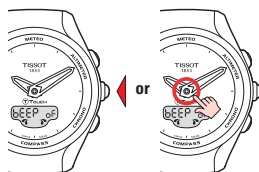
**UNITS > SETTING****Units display****Setting mode**

Select 12/24-hour mode



Validate setting.

Selecting 12-hour mode displays the date in the format 12.27.2007 (month, day, year), and 24-hour mode in the format 27.12.2007 (day, month, year).

**BEEP > SETTING****Beep display****Setting mode**Activated = on
Deactivated = off

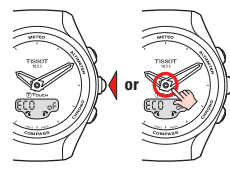
Validate setting

Deactivating the sound silences adjustment beeps but not the alarms.

**ECO (ENERGY SAVING MODE) > SETTING**

This mode saves the battery if the watch is not operated for one hour, if time T1 is between 22:00 and 05:48.

The digital display is deactivated and the analogue display indicates time T1. The chrono or countdown are not stopped if they are running. It is not possible to enter energy saving mode if the Altimeter function is active.

**Energy saving mode display****Setting mode**Activated = on
Deactivated = off

Validate setting

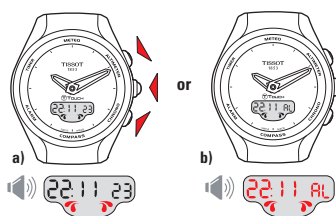
Entering energy saving mode

With **ECO on**, the watch automatically switches to **energy saving** mode if no operations or movements are detected for 1 hour between 22:00 and 5:48

or

if the battery is drained (see page 5).

With **ECO off**, the watch never switches to **energy saving** mode.

Exiting energy saving mode

a) Back to **time & date** mode.

b) Activation of an alarm makes the watch exit **energy saving** mode.



SLEEP (STANDBY MODE) > SETTING

Standby mode is a battery economy mode. All the functions are deactivated, with only the time & date counters updated. This mode economises the battery when the watch is not being worn.



Automatic switch to **standby** mode after 10 seconds
Beep every second



a) The watch is in **standby**



Back to **time & date** mode



b) **+** / **-**: stop the count, the watch does not switch to **standby** mode.



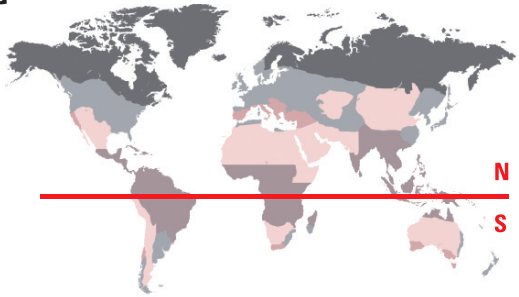
Back to **time & date** mode



HEMISPHERE AND CLIMATE ZONE > SETTING

To get the best from the altimeter function, it is possible to adjust the hemisphere and climate zone to your geographic location. Select your climate zone according to the simplified Koeppen climate classification (see illustration on right).

If the watch is not set ("No Set"), the standard atmosphere model is used: set temperature at sea level = 15°C, mean pressure at sea level: 1013.25 hPa



■ Polar ■ Temperate ■ Arid ■ Tropical ■ Mediterranean



Climate zone display



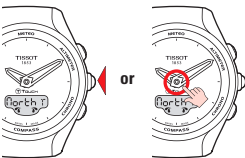
Setting mode



Select **hemisphere**:
North = North
South = South
not set = not set



Set the local climate:
T = temperate;
M = mediterranean;
A = arid;
tr = tropical;
P = polar



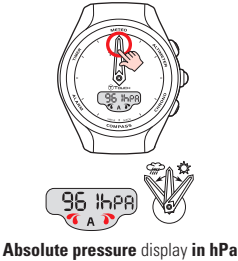
Validate setting

Note
It is not possible to select a polar local climate for the South Hemisphere.



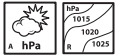
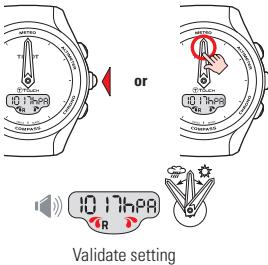
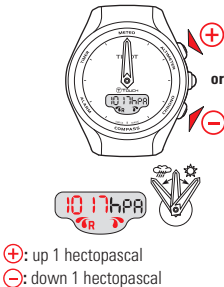
METEO (WEATHER) > READING

In weather mode, the hands are superimposed to indicate the weather trend.



METEO (WEATHER) > RELATIVE PRESSURE PRESETTING

Setting this pressure changes the altitude displayed. The possible relative pressure is deliberately limited between 950 hPa and 1100 hPa.



METEO (WEATHER) > GLOSSARY

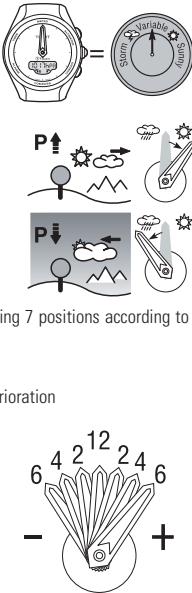
Description of function

In weather mode, the hands are superimposed to indicate the weather trend.

Explanations

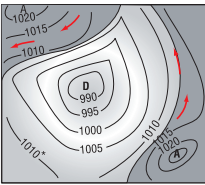
Weather changes are related to variations in atmospheric pressure. When atmospheric pressure increases the sky clears. The area is then referred to as a "high pressure" area or "anticyclone" (A). When atmospheric pressure decreases the sky clouds over. The area is then referred to as a "low pressure" area or "depression" (D). The T-TOUCH SOLAR E81 watch measures these pressure variations and indicates the weather trend with the hands, which can adopt the following 7 positions according to the weather developments:

- 6': Big pressure drop, rapid deterioration
- 4': Moderate pressure drop, probable deterioration
- 2': Small pressure drop, probable slight deterioration
- 12 o'clock: No notable weather change
- + 2': Slight pressure rise, probable slight improvement
- + 4': Moderate pressure rise, probable improvement
- + 6': Big pressure rise, rapid improvement



The T-TOUCH SOLAR E81 program takes account of atmospheric pressure variation over the last 6 hours to calculate the trend to indicate. Furthermore, the pressure variation caused by a rapid change in altitude is detected by the watch and compensated for automatically. So it only has a minimal impact on the barometric trend.

The T-TOUCH SOLAR E81 digital display indicates the absolute and relative atmospheric pressure values in hPa. Absolute atmospheric pressure is the actual pressure at the time and place of measurement, and cannot be altered. Relative pressure is a value relative to sea level, based on local absolute atmospheric pressure. Barometers and weather charts show relative pressure values. The relative pressure value depends on the climate zone set, and can be preset on the watch. The relative pressure presetting is in line with the altitude.



Characteristics of function

- Measurement range: absolute pressure: 300 hPa to 1100 hPa
relative pressure: 950 hPa to 1100 hPa
- Accuracy: absolute pressure: ± 3 hPa
relative pressure: varies with altimeter
- Resolution: 1 hPa
- Unit conversion: 1 hPa = 1 millibar [mb]



ALTIMETER > READING

The altitude is displayed on the digital screen for 10 hours continuously. After 10 hours, altimeter mode is deactivated, and the date is displayed.

The favourite altitude unit system for displaying the altitude (m or ft) depends on the 12/24-h unit configuration (see page 8)
For example: Units in 24-h = altitude in metres.



Activate glass



Altitude display according to the favourite altitude unit system



Altitude display according to the second altitude unit system



ALTIMETER > ALTITUDE PRESETTING



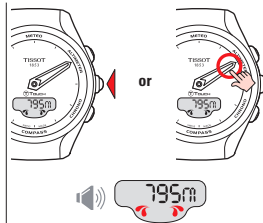
Altitude display



Setting mode



⊕: up 1 m or 3 ft
⊖: down 1 m or 3 ft



Validate setting



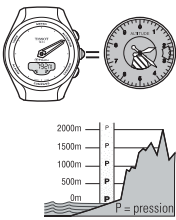
ALTIMETER > GLOSSARY

Description of function

In altimeter mode, your T-TOUCH SOLAR E81 becomes a barometric altimeter, displaying the altitude relative to mean sea level.

Explanations

This is a barometric instrument, which calculates the altitude as a function of absolute pressure (atmospheric). As the altitude rises, pressure drops, and vice versa. So the altimeter measures the difference between absolute pressure (atmospheric) and relative pressure (relative to sea level) to display the altitude. Your T-TOUCH SOLAR E81 is temperature compensated, and you can adjust your geographic location (hemisphere and climate zone). The altitude displayed is therefore corrected automatically.



NB!

Due to the use of pressure to calculate altitude, the altimeter is sensitive to variations in atmospheric pressure in weather changes. It is not uncommon to observe altitude differences of 100 m in a night. So the value displayed may vary without the altitude having actually changed.



Weather change = pressure variation = displayed altitude change

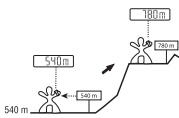
Note 1: "Presetting" an altimeter means setting the actual altitude of a known point (see presetting procedure on page 11). The actual altitude values are indicated on various media: signposts, contour lines and spot heights on maps. The altitude "presetting" is in line with relative atmospheric pressure.

Note 2: In an airliner, since the cabin is pressurised, your altimeter will not indicate an accurate altitude.

Note 3: To optimise the accuracy of your altimeter, you are advised to select the climate zone, see page 9.

Characteristics of function

Measurement range	– 400 m to +9000 m	– 1333 ft to +30,000 ft
Altimeter resolution	1 m	3 ft
Unit conversion	1 metre [m] = 3.281 feet [ft]	1 foot [ft] = 0.305 metres [m]





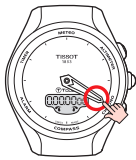
CHRONO > READING

Resolution: 1/100 sec / Measurement range: 99 hrs 59'59" and 99/100 sec



2702 14

Activate glass



00000000

Chrono display



00000000

Start **chrono**



000 1528

Stop **chrono**



0002948

Restart the chrono from the elapsed time (cumulative time)

Split (partial time)



00000000

Start **chrono**



0002537

a) Flashing stop with partial time displayed, and chrono running in background



0002948

b) Restart the chrono counting the elapsed time

Reset



000 1528

Stop **chrono**



00000000

Reset **chrono**



COMPASS > READING

The minute hand points to True North, factoring in the magnetic declination setting. In compass mode, the digital screen displays the angle between 12 o'clock and the minute hand.



2702 14

Activate glass



330

Compass display



CAL

User compass calibration (see page 13)



330

Back to **compass** display



COMPASS > MAGNETIC DECLINATION SETTING



330

Compass display



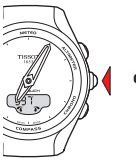
04 W

Magnetic declination display (1 sec.) and setting mode (2 sec.)



07 E

⊕: + 1 degree East
⊖: + 1 degree West

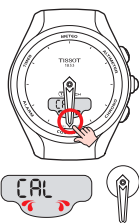


337

Validate setting



COMPASS > CALIBRATION



Compass calibration display



Activate **calibration** mode – glass deactivated during calibration



Turn the watch more than a complete revolution on a horizontal surface (e.g. a table) in an environment free from magnetic interference, at a rotation speed of around 30° per second.

Total time: 20 seconds maximum



a) Calibration successful – data stored



b) Calibration failed – repeat calibration



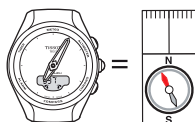
Back to **compass** display



COMPASS > GLOSSARY

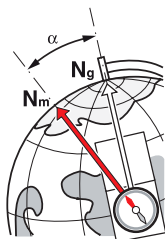
Compass

In compass mode, your T-TOUCH SOLAR E81 indicates the True North Pole, factoring in magnetic declination.



Compass explanations

The vertical lines (meridians) on the Earth converge at the True North Pole (N_g), indicating its direction. The hand of a conventional compass indicates the direction of the Magnetic North Pole (N_m). The angle (α) between these two directions N_g and N_m is known as magnetic declination. The magnetic declination value depends on your location on Earth. Furthermore, the Magnetic North Pole is constantly moving. So the magnetic declination value also depends on the date. If the correct magnetic declination value (for the location and date) is set (see the setting procedure on page 12), the minute hand of your T-TOUCH SOLAR E81 will point to True North (N_g). If the magnetic declination is set to 0, your T-TOUCH SOLAR E81 will point to Magnetic north (N_m). The magnetic declination values and dates are indicated on topographic charts, or can be found using special software available on the Internet.

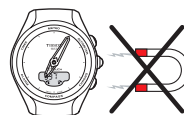


Note 1

For a correct indication of North, it is extremely important to hold the watch as level as possible.

Note 2

The compass function, like any other compass, should not be used near a metal or magnetic mass. In case of doubt, you can recalibrate your compass.



Characteristics of function

Accuracy: $\pm 8^\circ$

Resolution: 2°



ALARM > READING

The 2 alarms are associated with time T. An alarm lasts 30 seconds, without repeating. When the programmed time is reached, you can stop the alarm by pressing one of the push-buttons.



Activate glass



Alarm 1 display



Alarm 2 display

Stop alarm



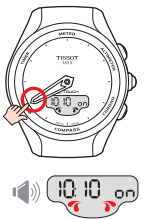
Alarm sounds



Stop alarm



ALARM > SETTING



Alarm 1 or 2 display



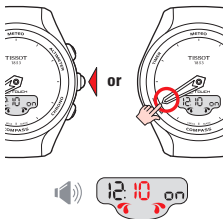
Activate or deactivate alarm



Switch to
hour setting mode



⊕: forward 1 hour
⊖: back 1 hour



Validate the hour setting
and switch to
minute setting mode



⊕: forward 1 minute
⊖: back 1 minute



Validate the minute setting



TIMER (COUNTDOWN) > READING

Measurement range: 99 hrs 59'59"

Starting/Stopping



a) When the countdown has stopped, the last **countdown** starting value is reloaded.

b) When the countdown is running, pressing the push-button rounds the counter to the nearest minute (Between 0 and 30 seconds, seconds deducted. Between 31 and 59 seconds, seconds added).



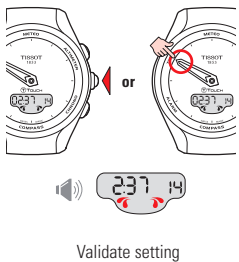
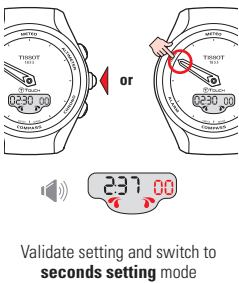
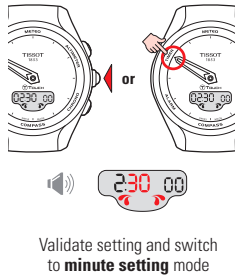
The **countdown** sounds as soon as it reaches 0

Beep every second for the last 5 seconds of the countdown



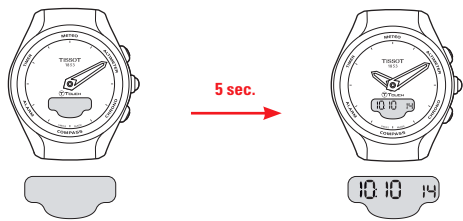
TIMER (COUNTDOWN) > SETTING

Measurement range: 99 hrs 59'59"



SENSOR FAULT

When a function is selected and the display is cleared, it is probably due to a failure of the selected function's sensor.



Error: the display is cleared

Back to time T1 display

If this happens, please contact your retailer.

WARNINGS

Battery type: ML2016 accumulator.



To activate the functions on your T-TOUCH SOLAR E81 a **gentle press on the push-buttons** or touch on the glass is all that is required. Excessive force may damage the watch.

The brightness of the digital display decreases when the hands are in motion.

In fast continuous setting mode, the display moves at a faster rate than in non-continuous or normal speed setting mode. To exit fast continuous setting mode, you need to release the push-buttons for 1 second to continue in normal speed setting mode.



The T-TOUCH SOLAR E81 is **water resistant to 10 bar (100 m / 330 ft) at 25°C / 77°F**, but it is not an instrument suitable for sports diving. You must not use push-buttons when the watch is underwater. None of the functions can be activated if the glass is in contact with a liquid.



Do not expose the watch to places where high temperatures might be reached (e.g. under a car windscreen in direct sunlight).

Watch operating range: -5°C to +55°C / 23°F to 131°F

Additional information in the "International Warranty – Service centres" booklet